UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,079	02/03/2004	Oscar E. Agazzi	13469US03	4537

23446 7590 01/12/2009

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER	
CORRIELUS, JEAN B	

ART UNIT	PAPER NUMBER
2611	

MAIL DATE	DELIVERY MODE
01/12/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/772,079	AGAZZI ET AL.	
	Examiner	Art Unit	
	Jean B. Corrielus	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 November 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,7,11,17-19,23 and 27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7,11,17-19,23 and 27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/20/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 7, 17, 18, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Solve et al US Patent No. 5,675,612.

As per claim 1, Solve et al teaches a feedforward equalizer see fig. 2 (note receive path) for equalizing a sequence of signal samples (note output of the ADC 48) received from a remote transmitter (Note Fig. 1), the "feedforward equalizer" being included in a receiver see (Note fig. 2) having a decoder 62, the "feedforward filter" (note receive path of fig. 2)comprising: a filter 50 functionally equivalent to the claimed "non-adaptive filter" operable to receive the signal samples (note output of the ADC 48) and producing a filtered signal (note the positive input to summer 52) ; summer 52 (noise cancellation stage) operable to subtract from the filtered signal (positive input) a noise signal (note negative input of summer 52) received from circuit 38 corresponding

to the claimed "noise computing module" of the receiver see fig. 2 and produced a noise reduced filtered signal (note output of the summer 52); a gain stage 54 operable to receive the noise reduced filtered signal (note output of summer 52) and to adjust the amplitude of the noise reduce filtered signal (output of summer 52), the amplitude of the noise reduced filtered signal being adjusted so as to fit in an operational range of the decoder 62 (note col. 5, lines 66-col. 6, line 1).

As per claim 2, the "feedforward equalizer" (note fig. 2, receive path) inherently does not enhance noise because the function of the equalizer is to remove noise component from the received signal.

As per claim 7, note that the function of the equalizer is to remove ISI induced by any source from the received signal and that would inherently includes ISI generated by a pulse shaping filter if such device was included in the transmitter.

As per claim 17, see claim 1.

As per claim 18, see claim 2.

As per claim 23, see claim 7.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 11 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solve et al US Patent No. 5,675,612.

As per claim 11, applied to claim 1 above Solve teaches every feature of the claimed invention but does not teach the further limitations of adjustment of the gain/amplitude of the feedforward equalizer/filtered signal is programmable. However, it would have been obvious to one skill in the art to implement the adjustment of the gain/amplitude of the feedforward equalizer/filtered signal as programmable in order to be able to modify characteristics parameter of the filtered signal/feedforward equalizer using programmable processors so as to enhance signal processing.

As per claim 27, see claim 11.

6. Claims 3 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Solve et al US Patent No. 5,675,612 in view of Lee US patent No. 6,055,119.

As per claim 3, as applied to claim 1 above, Solve teaches every feature of the claimed invention and further teaches the additional limitation of the timing recovery device 70 for setting a sampling phase of ADC 48. However, Solve does not teach the further limitations of "wherein the feedforward equalizer does not affect the sampling phase setting of the timing recovery module of the receiver". Lee teaches the apparatus in which the feedforward equalizer 13 does not affect the sampling phase setting of the timing recovery module 12 of the receiver fig. 1. See col. 1, line 65-col. 2, line 4. Given that fact, it would have been obvious to one skill in the art to modify Solve to prevent the feedforward equalizer from affecting the sampling phase setting of the timing recovery module of the receiver as suggested by Lee in order to optimize sampling timing of the input signal as taught by Lee see col. 1, line 31.

As per claim 19, see claim 3.

Response to Arguments

7. Applicant's arguments with respect to claims 1-3, 7, 11, 17-19, 23 and 27 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

//Jean B Corrielus/
Primary Examiner
Art Unit 2611